

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-2-53
Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

CUMMINS ENGINE COMPANY, INC.

Pursuant to the authority vested in the Air Resources Board at Sections 43000.5, 43013, and 43018 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned at Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-9; and

IT IS ORDERED AND RESOLVED: That the following diesel engines and the exhaust emission control systems produced by the manufacturer are certified as described below for use in heavy-duty off-road equipment:

Model Year: 2000

Typical Equipment Usage: Loader, Pump, and Generator Set

Engine Power Ratings Range: 175 – 750 horsepower, inclusive

Fuel Type: Diesel

<u>Engine Family</u>	<u>Displacement</u>		<u>Exhaust Emission Control Systems and Special Features</u>
	<u>Liters</u>	<u>Cubic Inches</u>	
YCEXL0855AAA (A093)	14.0	855	Turbocharger Charge Air Cooler

The engine models and codes are listed on attachments. Production engines shall be in all material respects the same as those for which certification is granted.

The exhaust emission certification standards and certification values in grams per brake horsepower-hour (g/bhp-hr) for total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matter (PM), and the opacity-of-smoke certification standards and certification values in percent (%) during acceleration (Accel), lugging (Lug), and the peak-values from either mode (Peak) for this engine family are as follows (Title 13, California Code of Regulations, Section 2423):

	<u>Exhaust Emissions (g/bhp-hr)</u>				<u>Smoke Opacity (%)</u>		
	<u>THC</u>	<u>CO</u>	<u>NOx</u>	<u>PM</u>	<u>Accel</u>	<u>Lug</u>	<u>Peak</u>
Standard	1.0	8.5	6.9	0.4	20	15	50
Certification	0.2	1.2	6.9	0.1	17	7	25

BE IT FURTHER RESOLVED: That the listed engine models comply with "Exhaust Emission Standards and Test Procedures—Heavy-Duty Off-Road Diesel-Cycle Engines" (Title 13, California Code of Regulations, Section 2423) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That the listed engine models also comply with "Emission Control Labels—1996 and Later Heavy-Duty Off-Road Diesel-Cycle Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Sections 2425 *et seq.*).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

Executed at El Monte, California this 28TH day of December 1999.



for R. B. Summerfield, Chief
Mobile Source Operations Division

Engine Model Summary Form

U-R-2-53

Manufacturer: Cummins Engine Company
Engine category: Nonroad CI
EPA Engine Family: YCEXL0855AAA
Mfr Family Name: A093
Process Code: New Submission

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
1921:FR 1878	N14-C	480@1800	264	160	1500@1400	282	133	TC
1921:FR 1872	N14-C	480@1800	253	162	1500@1400	282	133	TC
1921:FR10211	N14-C	475@2100	236	167	1500@1400	282	133	TC
1921:FR 1860	N14-C	475@2100	236	167	1500@1400	282	133	TC
1921:FR10240	N14-C	475@2100	236	167	1500@1400	282	133	TC
1921:FR10291	N14-C	475@2100	236	167	1500@1400	282	133	TC
1921:FR10008	N14-C	475@2100	236	167	1500@1400	282	133	TC
1921:FR 1879	N14-C	460@1800	252	153	1500@1400	282	133	TC
1921:FR 1978	N14-C	460@2100	229	162	1500@1400	282	133	TC
1921:FR10194	N14-C	450@2100	225	159	1500@1400	282	133	TC
1921:FR 1985	N14-C*	450@2100	225	159	1500@1400	282	133	TC
1921:FR 1865	N14-C	450@2100	225	159	1500@1400	282	133	TC
1921:FR10011	N14-C	450@2100	220	156	1470@1500	271	137	TC
1921:FR 1979	N14-C	440@1800	242	147	1475@1400	277	131	TC
1921:FR 1980	N14-C	430@2000	221	149	1470@1400	277	131	TC
1921:FR 1982	N14-C	430@2000	221	149	1500@1400	282	133	TC
1921:FR 1981	N14-C*	430@2000	221	149	1500@1400	282	133	TC
1921:FR 1913	N14-C*	425@2100	210	149	1500@1400	282	133	TC
1921:FR10007	N14-C	405@1800	224	136	1275@1400	240	113	TC
1921:FR10092	N14-C	405@1800	224	136	1275@1400	240	113	TC
1921:FR10010	N14-C	400@2100	201	142	1400@1500	259	131	TC
1921:FR10082	N14-C*	400@1800	220	134	1300@1400	244	115	TC
2033:FR 1901	N14-C	425@2100	209	148	1400@1400	258	122	TC
2033:FR10154	N14-C	425@2100	209	148	1400@1400	258	122	TC
2033:FR10313	N14-C	425 @ 2100	209	148	1400 @ 1400	258	122	TC
2033:FR 1911	N14-C*	425@2100	209	148	1400@1400	258	122	TC

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